

# Supplementary Material

**Table S1.** Effect of different plant growth regulators (PGR's) on leaf explants of *Viola serpens* for callus formation.

Plant Growth Regulators	Concentrations (mg/L)	Callusing	No. of Days	Percentage of Explants Responded (%)
MS medium	-	-	50–60 days	0
	0.10	-		
	0.25	-		
	0.50	-		
MS + NAA	0.75	-	50–60 days	0
	0.85	-		
	1.00	-		
	1.50	-		
	2.0	-		
	2.5	-		
	0.10	-		
	0.25	-		
MS + BAP	0.50	-	50 days	15
	0.75	-		
	0.85	-		
	1.00	-		
	1.50	-		
	2.0	+		
	2.5	-		
	0.10	-		
	0.25	-		
	0.35	-		
MS + 2,4-D	0.40	-	25 days	10
	0.50	+		
	1.0	-		
	1.50	-		
	2.0	-		
	2.5	-		
	0.10	-		
	0.25	-		
	0.50	-		
	0.75	-		
MS + KIN	0.85	-	50–60 days	0
	1.00	-		
	1.50	-		
	2.0	-		
	2.5	-		
	1.0 + 0.11	+		
	1.5 + 0.12	-		
	2.0 + 0.13	+		
MS + BAP + 2,4-D	2.5 + 0.14	+	45 days	88.5
	2.5 + 0.15	+		
	1.0 + 0.25	-		
	1.5 + 0.5	-		
	2.0 + 0.5	-		
MS + BAP + IAA	2.5 + 0.75	-	25 days	-
	2.5 + 1.0	+		

MS + BAP + 2,4- D + KIN	1.5 + 1.0 + 0.2	+	50–60 days	40
	1.0 + 1.0 + 0.4	+		35
	1.25 + 1.0 + 0.5	-		-
	1.25 + 1.0 + 0.1	-		-
	1.5 + 1.0 + 0.3	+		45
	2.0 + 0.8	+		45
MS + NAA + KIN	2.2 + 0.8	+	40 days	38
	2.3 + 0.9	-		-
	2.0 + 0.5	-		-
	2.5 + 0.5	-		-

**Table S2.** RAPD Primers along with sequences.

SN	Sequences (5' → 3')	Primers
1	AGACGGCTCC	OPAA-01
2	GAGACCAGAC	OPAA-02
3	TTAGCGCCCC	OPAA-03
4	AGGACTGCTC	OPAA-04
5	GGCTTTAGCC	OPAA-05
6	TCAAGCTAAC	OPAA-06
7	CTACGCTCAC	OPAA-07
8	TCCGCAGTAG	OPAA-08
9	AGATGGGCAG	OPAA-09
10	TGGTCGGGTG	OPAA-10
11	ACCCGACCTG	OPAA-11
12	GGACCTCTTG	OPAA-12
13	GAGCGTCGCT	OPAA-13
14	AACGGGCCAA	OPAA-14
15	ACGGAAGCCC	OPAA-15
16	AAGCCTCGTC	BG-01
17	TGCGTGCTTG	BG-02
18	GACGGATCAG	BG-03
19	CACACTCCAG	BG-04
20	CACACTCCAG	BG-05

**Table S3:** Number of intensive amplification products generated by 20 arbitrary primers in different accessions of *Viola serpens*.

Primer code	Accession V1	Accession V2	Accession V3	Accession V4	Accession V5	Accession V6
OPAA- 01	5	5	6	5	5	7
OPAA- 02	---	---	---	---	---	---
OPAA- 03	9	8	6	9	8	9
OPAA- 04	8	9	9	8	8	6
OPAA- 05	---	---	---	---	---	---
OPAA- 06	---	---	---	---	---	---
OPAA- 07	4	5	6	5	5	5
OPAA- 08	5	6	5	4	6	5
OPAA- 09	6	8	6	8	8	6
OPAA- 10	4	6	5	4	3	4
OPAA- 11	---	---	---	---	---	---
OPAA- 12	---	---	---	---	---	---
OPAA- 13	---	---	---	---	---	---
OPAA- 14	---	---	---	---	---	---
OPAA- 15	---	---	---	---	---	---
BG- 01	---	---	---	---	---	---
BG- 02	5	6	6	5	6	6
BG- 03	---	---	---	---	---	---
BG- 04	---	---	---	---	---	---

<b>BG- 05</b>	---	---	---	---	---	---
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**Table S4:** Commercial crude drug samples collected from the market place of New Delhi, India.

<b>S. No.</b>	<b>Trade Name</b>	<b>Sample Code</b>	<b>Product Character</b>
1	Banafsha	B1	crimped leaves
2	Banafsha	B2	Powder
3	Banafsha	B3	dried stem
4	Banafsha	B4	powder
5	Banafsha	B5	crimped leaves
6	Banafsha	B6	powder
7	Banafsha	B7	dried stem
8	Banafsha	B8	crimped leaves
9	Banafsha	B9	powder